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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,256	12/12/2000	Cathy L. Blouin	BUR9-2000-0050-US1	4768

29154 7590 05/17/2007

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EXAMINER	
NELSON, FREDA ANN	
ART UNIT	**PAPER NUMBER**
3628	

MAIL DATE	DELIVERY MODE
05/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/735,256	BLOUIN ET AL.	
	Examiner	Art Unit	
	Freda A. Nelson	3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-12,14-25 and 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 7-12, 14-25, and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment received on March 1, 2007 is acknowledged and entered. Claims 1, 7-8, 14-15, 20-21, and 27 have been amended. Claims 6, 13, and 26 have been canceled. No claims have been added. Claims 1-5, 7-12, 14-25, and 27 are currently pending.

Response to Amendment and Arguments

Applicant's arguments filed March 1, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, motivation is in the reference (see Evans; col. 3, lines, 7-34 and col. 5, lines 19-39) and is reasonably pertinent to the particular problem with which the applicant is concerned.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642

F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., critical gate dimensions such as size and thickness of the source and drain regions, the size and depth of the channel region, the size and thickness of the gate oxide, sizes and positions of spacers adjacent the gate, sizes and dimensions of various contacts and insulators connected to the source, and drain, and drain regions) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that Evans et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Evans et al. is reasonably pertinent to the particular problem in manufacturing with which the applicant is concerned.

Claim Rejections - 35 USC § 112

1. Claims 1, 8, and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains

subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The examiner is unable to locate the recitation in the specification, "wherein the regression analysis produces relationship curves that only show relationships between said historical gate dimensions and said historical cost.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, the examiner is unable to determine what the applicant is claiming by the claim language "perform a regression".

Claim 1 recites the limitation "said regression analysis" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over "21st Century Semiconductor Manufacturing Capabilities" (hereinafter referred to as "Manufacturing), in view of Evans et al. (Patent Number 6,775,647).

As per claims 1 and 21, Manufacturing discloses a system for predicting semiconductor product costs at a fabricator comprising:

a storage medium including a database of historical critical gate dimensions and historical critical ground rules correlated to cost functions at said fabricator (page 1, FIGS. 2-3: Tables 1-3);

a user interface (keyboard or mouse) having user inputs for new design parameters and new critical ground rules associated with a new device to be produced at said fabricator; and a computer adapted to:

receive said user inputs (see especially Figs. 2-3, Tables 1-3 and Supra Response to Applicant's Argument);

create, in said database, models from said regression analysis only showing a relationship between said historical critical gate dimensions and said historical costs (see Supra Figs. and Tables); and

input new design parameters and new critical gate dimensions of a new device into the database and predicting product costs of the new device based on the models (see the entirety of document, to note how "Operational modeling

and simulation" and "Knowledge Management" work to compute the costs for the new design).

Manufacturing does not expressly disclose the method including the step of performing a regression analysis on historical costs of historical critical gate dimensions at said fabricator, using said historical critical gate dimensions as independent variables and said historical costs as dependent variables.

However, Evans et al. teaches, for a method and system for estimating manufacturing costs, that the invention performs a regression analysis for developing new products (e.g. see col. 5, lines 19-38). Since Evans et al. and Manufacturing are both from the same field of endeavor of predicting a cost for developing new products, the purpose disclosed by Evans et al. would have been well recognized in the pertinent field of Manufacturing.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the ad to modify the invention of Manufacturing such that the invention performs a regression analysis based on a relationship between the historical gate dimensions and the costs (see Fig. 2 and Table 1 of Manufacturing), as taught by Evans et al., for the purpose of providing an advantage of cost modeling for an engineer who is striving for a better understanding of the cost of his design and seeking to reduce production costs.

As per claims 2 and 22, the modified system of Manufacturing discloses that the historical critical dimensions and said new critical dimensions comprise gate dimensions (FIG. 2 and Tables 1-2 of Manufacturing).

As for claims 3 and 23, the modified system of Manufacturing discloses that the new critical gate dimensions are smaller than said historical gate dimensions (see Id.).

As per claims 4 and 24, the modified system of Manufacturing discloses that the new device comprises a future technology generation (see FIG. 2 of Manufacturing).

As per claims 5 and 25, the modified system of Manufacturing discloses that the fabrication hardware and fabrication methods for producing said future technology generation is unknown (see Id.).

As per claim 6, the modified system of Manufacturing discloses that the models comprise base and models that include options (See FIGS. and Tables).

As per claims 7 and 27, the modified system of Manufacturing discloses that said the models illustrate that costs increase exponentially as said historical critical gate dimensions are reduced.

As per claim 8, Manufacturing discloses a method comprising the steps of:

performing a regression analysis on historical costs of historical critical gate dimensions at a fabricator, using said historical critical gate dimensions as

independent variables and said historical costs as dependent variables (see Figs. 2-3 and Tables 1-3 and the descriptions thereof);

creating, in a database, models from said regression analysis only showing a relationship between said historical critical gate dimensions and said historical costs (see Supra Figs. and Tables); and

inputting new design parameters and new critical gate dimensions of a new device into the database and predicting product costs of the new device based on the models (see Supra Response to applicant's argument).

Manufacturing does not expressly disclose the method including the step of performing a regression analysis.

However, Evans et al. teaches, for a method and system for estimating manufacturing costs, that the invention performs a regression analysis for developing new products (e.g. see col. 5, lines 19-38). Since Evans et al. and Manufacturing are both from the same field of endeavor of predicting a cost for developing new products, the purpose disclosed by Evans et al. would have been well recognized in the pertinent field of Manufacturing. Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the ad to modify the invention of Manufacturing such that the invention performs a regression analysis based on a relationship between the historical gate dimensions and the costs (see Fig. 2 and Table 1 of Manufacturing), as taught by Evans et al., for the purpose of providing an advantage of cost modeling for an engineer who is striving for a better understanding of the cost of his design and seeking to reduce production costs.

As per claim 9, the modified method of Manufacturing further discloses the method, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (Fig. 2 and Tables 1-2 of Manufacturing).

As per claim 10, the modified method of Manufacturing further discloses the method, wherein the new critical dimensions are smaller than the historical critical dimensions (see Id.).

As per claim 11, Manufacturing further discloses the method, wherein the new device includes a future technology generation (see Fig. 2 of the Manufacturing).

As per claim 12, Manufacturing further discloses the method, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown (see Id.).

As per claim 14, manufacturing further discloses the method, wherein relationships include models that illustrate that costs increase exponentially as the historical critical gate dimensions and the historical critical ground rules are reduced (see Id.).

As for Claim 15, Manufacturing discloses a system comprising:

a regression analyzer adapted to produce relationship curves that show relationships between historical critical gate dimensions of historical costs of different technologies run at said fabricator (see the entirety of document, to note how "Operational modeling and simulation" and "Knowledge Management" work to compute the costs for the new design);

a user interface for inputting a new critical dimension of a new technology (see especially Figs 2-3. and Tables 1-3); and

a calculator for predicting a cost of the new technology based on the new critical dimension and said relationship curves (see especially Figs 2-3. and Tables 1-3).

Manufacturing does not expressly disclose the system including the regression analyzer. Evans et al. teaches, for a method and system for estimating manufacturing
costs, that the invention performs a regression analysis for developing new products (e.g. see col. 5, lines 19-38; FIG. 2).

However, since Evans et al. and Manufacturing are both from the same field of endeavor of predicting a cost for developing new products, the purpose disclosed by Evans et al. would have been well recognized in the pertinent field of Manufacturing.

Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Manufacturing such that the invention performs a regression analysis based on a relationship between the historical gate dimensions and the costs (see Fig. 2 and

Table 1 of Manufacturing), as taught by Evans et al., for the purpose of providing an advantage of cost modeling for an engineer who is striving for a better understanding of the cost of his design and seeking to reduce production costs.

As per claim 16, Manufacturing further discloses the system, wherein the historical critical gate dimensions and the new critical gate dimensions include gate dimensions (see Supra Figs. and Tables).

As per claim 17, Manufacturing further discloses the system, wherein the new critical dimensions are smaller than the historical critical gate dimensions (see Id.).

As per claim 18, Manufacturing further discloses the system including a storage unit adapted to store a database of the relationships (the computer system of both Manufacturing and Evans et al. MUST include the database).

As per claim 19, Manufacturing further discloses the system, wherein the new device includes a future technology generation (see Fig. 2 of Manufacturing).

As per claim 20, Manufacturing further discloses the system, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown (see Id.).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freda A. Nelson whose telephone number is (571) 272-7076. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FAN 05/14/2007

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